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(Continued on Inside Back Cover)

THE JOURNAL OF

EDUCATIONAL PSYCHOLOGY

Volume 46 December, 1955 Number 8

GROUPNESS OF THE GROUP[1]

IRVING LORGE

Teachers College, Columbia University

How an individual makes his choice of a vocation or a profession is of great concern to educational psychologists; how an educational psychologist makes that choice should be of significance to all of you. I would like to bring to your consideration the way Dr. Edward Lee Thorndike became an educational psychologist. On completing his doctorate on animal intelligence at Columbia University, he states in his autobiography,

"In the Spring of 1898, I was offered two positions, one as a teacher of psychology in a normal school, the other at a much lower salary as a teacher of education in the College for Women at Western Reserve University. I chose the latter, partly because my brother expected to go there and partly because of the repute of Western Reserve. I spent the summer in reading the facts and important theories about education and teaching. This could then be done if the history of educational practices was omitted. After a year at Cleveland, I was given a trial at teaching psychology and child study at Teachers College, and there I have spent the past thirty-one years."

It would be supererogation, indeed, to tell you that Dr. Thorndike, as an educational psychologist, made contributions to child study, mental and social measurement, the psychology of school subjects, mental inheritance, individual and sex differences, the organization of abilities, memory, work, interest, selection and classification of personnel, adult learning, human nature and the

[1] Presidential address read at the meeting of Division 15 of the American Psychological Association in September 1954.

social order, language and communication. But I have supererogated! If Dr. Thorndike had been a joiner, it is reasonable to assume that he could have met the requirements for fellowship in practically all of the divisions within the present structure of the American Psychological Association.

But if he had, there would have been a high likelihood that he would not have been quite as productive as he was. Perhaps contemporary psychologists are chary of multiple membership in the association because their productivity, too, may be impaired. Certainly, if one accepts the factorial analysis of the membership of the APA reported by Dr. Dorothy Adkins, we have the evidence that educational psychology has a strong association with childhood and adolescence. As she put it, "Factor 7 has high loadings only on childhood and adolescence and on educational psychology, and neither of these has a high loading on any other factor.... Factorial results definitely argue for the union of childhood and adolescence only, perhaps under the title, 'developmental psychology'."

There can be little doubt of the considerable overlap in the affiliations of the members of Divisions 5 and 15. Yet, it must be reemphasized, that affiliation and interest are not yet perfectly correlated either within the association's membership or in the population itself. Structure recommended on the basis of affiliation not only tends to maintain *status quo* but also may defeat the original purpose of the several divisions. Certainly, one would expect that new fields in psychology must be pioneered and developed by zealous psychologists banded together in a common purpose of improving knowledge and its applications.

Some psychologists have suggested the formation of a smaller number of sections because of the ease of programming. Because of common affiliations, all papers and symposia related to the common membership, they say, could then be scheduled together. This, to me, seems a dangerous principle. The separateness of the divisions does suggest that programming be on a successive rather than on a concurrent basis. Indeed, the overlap of educational psychology on all other divisions is so great that it can be said that for educational psychologists, nothing in psychology is alien to them. Educational psychologists, as a group, are interested in the content, methods, knowledges, and applications of each division to the improvement of teaching and of learning. Affiliations, assuredly, do not define the group.

My reference to Dr. Thorndike's choice of career and productivity in his chosen field was not only evidence of my intellectual indebtedness to him, but was intended to show that from the educational psychologists there emerged the leadership for the development of many of the currently strong divisions in our association. Educational Psychology still covers the wide range of the applications of psychology to the improvement of teaching and learning from childhood to maturity and in settings varying from informal teaching and learning within the family through the more usual and more structured school situations for the transmission of the cultural heritage to pupils and students, to the tremendous variety of informal experiences by which individuals adjust to their physical and social environment.

Indeed, Thorndike, in his work as an educational psychologist, tended to accept the implied objectives and stated content of schools as the given. Given the objectives, he tried to estimate the ways in which psychology could help teachers to bring learners to realize the curricular goals. His researches demonstrated the weakness of some objectives, the error in the rationale for some methods, and the inefficiency and unreality of much of the content and skill taught children in school in the early decades of this century.

He suggested the manner for introducing reality in subject matter, usefulness for skills, and science in methodology. His procedure was that of the researcher who investigated to find out if it is so, does it work, will it last? There is a tendency, among educational psychologists, today to accept some objectives, procedures and content as legitimate curricular goals without assaying the attainability of them. For instance, there seems to be considerable emphasis in the educational and psychological literature on the attainment of groupness and group dynamics. There can be little quarrel with the stipulation of such goals provided that some attempts be made to find out whether the goals as ends, or as means to other ends, are realized or realizable.

From a brief review of group dynamics, it is evident that much attention has been given to the purpose of group dynamics at the elementary school level. The expressed purposes range from the mere learning of specific skills and knowledges to the attainment of the broader aspects of democratic living. For instance, Thelen believes that instructional efficiency can be increased through the teaching of group dynamics in the classroom. He suggests that all students in a subgroup can be brought up to the level originally

possessed by the most skilled person in it, if group methods of teaching are intelligently used. It is true that Thelen feels that a primary purpose of group methods in teaching and learning is in the promotion of creative thinking and social organization. When the class discusses and settles the question of how work shall be organized and individual efforts coördinated, he feels that the individuals and the class gain in mastery of decision-making and in problem-solving. Learning in groups is said to satisfy individual needs so that energies may be devoted to solving achievement problems. Indeed, Thelen tends to emphasize not only the individual's gains in the mastering of content, in the accepting of self responsibility, in the motivating of learning, but also stresses the acquiring of group process goals in group feeling and in the understanding of democratic adjustments.

With the current interest in the group and in group dynamics, however, little has been said about what makes a group *a group* as distinguished either from an aggregation or, indeed, from an individual. The popular preference for the word "group" suggests a nuance of an organic unit or a cohesive whole. In the literature, however, the structure of the group is ill-defined and ambiguous. In the references that have been reviewed, the structure of the group, as used in elementary school teaching, may be broadly dichotomized, (1) as that in which the group is considered more in terms of method of instruction than in terms of its organization; and (2) as that in which the group is referred to in terms of rôle and interaction patterns.

The first obviously does not define a group at all, but gives the flavor of the classroom climate in relation to relative limits placed on child activities both by teacher demands and decisions as well as by the environmental constraints and limitations considered necessary for teaching and learning. Essentially, group structure merely —or really suggests the delicate balancing between the Charybdis of permissiveness and the Scylla of control. The second category asserts that there are differences between an aggregate and a group such as the fact that a group's members have common needs, interests and purposes. This, too, fails fully to specify a group, for in the schoolroom in so far as members have different needs, interests and purposes, they would form different groups. Perhaps, the closest indication of the differentia is in the process of interaction among the members of a group. Such an approach to the group

leads to difficulties in the appraisal of and even the description of the communications and transactions among the members. Yet, the groupness of any group must represent some sharing of experiences, knowledges, feelings and purposes. Perhaps groupness, or as one writer terms it, "we-ness" is in the sharing of resources, be they intellectual, emotional or material, to accomplish a group purpose or several group purposes.

Even now, however, there is little or no evidence that suggests the degree to which groups achieve any one group purpose, or the extent to which the members as individuals gain from group experience in such objectives as social skills and knowledge, or, more significantly, in the ability to transfer such social gains to other groups. It is too early to expect that the effect of the group experience upon the school children can be appraised. At least, for research, there are hypotheses that should be tested such as: (a) any group benefits are shared equally by all individual members; (b) individual learning is maximized through the group; (c) group experiences strengthen the individual's need to learn; (d) group experience allows the individual to develop at his own rate to maturity; and so on.

It is my belief, however, that it will be very difficult to design research in the effect of the groupness of the group upon the behavior of its individual members largely because the group is so ill-defined.

In the course of summarizing the literature on experimentation with groups in problem solving, we became aware that the psychologist used the term "group" in at least five different meanings. This is not strange. For the lexicographer considers a group to be a "number of persons (or things) gathered together and, thereby, forming a recognizable unit; a cluster, an aggregation, or a band" or to be a "number of persons classified together because of common characteristics or community of interest." The difficulty lies in the fact that the dynamic character of the group is lost in the dictionary's definition. Psychologists tend to think of the group as made up of members, each of whom is in close personal relation with every other member. The group implies interaction and communication among two or more individuals whether with, or without, a designated leader but with a tradition of having learned in time and with mutual experiencing to work together. Obviously, such a coöperative amalgamation of individuals who have pro-

gressed upward through the stages of organizing, of assaying each other's resources and personalities and of establishing channels of communication into the more significant and higher stages of mutual reinforcement of one another's contributions to solving a problem is not easy to find. Except as described in terms of process observations, the traditioned group has not yet been studied. It is reasonable to assert that such groups have not been utilized in research in groups, either at the elementary or high school levels. And, with the exception of Darley's work with sororities, such groups have not been the basis of research with college students.

The psychologist, however, tends to generalize anticipated values of traditional groups to very many enterprises. Indeed, the psychologist and the educator have failed to recognize that in their research activities, they must, necessarily work with groups that are not traditional groups. All of you are familiar with the so-called *ad hoc* group. The *ad hoc* group is usually established by some outside agency (viz., the college teacher as experimenter) to work with, or solve some externally specified task, under the instruction that they do so coöperatively. Such an *ad hoc* group is at least one step away from the more dynamic group. The *ad hoc* group is an artificial assemblage made for the duration of an experiment. Such a group rarely is expected to, and rarely does, continue to develop groupness.

Under an Air Force contract, our research staff has attempted to test the hypothesis that problem solving by *ad hoc* groups or staffs is superior to problem solving of the random individual. Two widely different kinds of problems have been used with two different populations. One type of problem, designated as the field type, is like the familiar O.S.S. task of requiring a cadre of men to cross a mined road without attracting the attention of the enemy and without traces of their route. A series of such problems was given to *ad hoc* teams of college undergraduates to do. In general, the solutions by teams were markedly superior to those of random individuals. Such a result would have been anticipated from the published results of Shaw's well-known experiment in problem solving.

The other type of problem required the solution of a complex human relations difficulty such as taking steps to improve the morale at an Arctic Weather Station under the constraint that the mission of weather reporting must be accomplished. This type of problem was used with officers in the Air Force in the ranks of

captain through colonel. The *individual* solutions tended to be as good or better than the average of *ad hoc* staff solutions.

Is it possible that college students work more coöperatively than officers; or is it likely that staffs or teams are superior in those problems for which there is a knowable solution; or is it possible that the responsibility of command makes each member equivalent to a staff? The answers are, of course, unknown. Certainly children in schools today are expected to participate in, and with, groups. Perhaps the future holds bright promise for group decisions and group problem solving if such experience develops a common element of groupness which is transferred positively to all forms of later group experience.

Edward L. Thorndike would certainly have wished to evaluate the attainment of the objectives. At Teachers College, three attacks are being made on the nature of the differences in the solutions to problems by groups and by individuals. The first is to compare *ad hoc* groups with random individuals; the second to compare *traditional* groups with *ad hoc* groups; and the third is to create mathematical models to account for the group superiority. As a matter of fact, Dr. Solomon and I have developed two such models to consider group behavior in the solution of the Eureka or knowable solution problem. The models are expressed in terms of two hypotheses: Model A, that group superiority is a function only of the ability of one or more of its members to solve the problem without taking account of the interpersonal rejection and acceptance of suggestions among its members; Model B hypothesizes that group superiority is a function only of the pooled abilities of its members. Model B implies that each problem is solved in two or more stages.

The use of Models A and B on the Marjorie Shaw data as well as the data for the O.S.S. field type problem suggests the *acceptability* (but not the proof) of the formulation that the group is superior to the individual *only* because any group has a higher probability of having among its members at least one solver, or several solvers who can independently solve the various stages of the problem. If this be verified by further researches with a broad range of groups and problems, it reopens the question of the "groupness of the group" and the enduring result as a group activity over fairly long spans of time.

Our own experimental evidence contrasting problem solutions

by *ad hoc* teams made up of individuals, who had solved the *same* problem previously, supports the generalization that group superiority may be a reflection of the ability of the best one or two members of the *ad hoc* group. In another experiment, an attempt was made to contrast the problem solutions made by "traditioned" and by "*ad hoc*" teams. The traditioned teams comprised members who worked together at the Air University on all group activities as a staff for three months. The results lead to the inference that the "three-month traditioned group" is equivalent, but not better than, the *ad hoc* group. It must be emphasized that experimental, "traditioned" groups originally had been designated by the authoritarian procedure of selecting individuals from the class at random to make up the group. Hence the "traditioned" group may not have had in it members who would have developed the group cohesiveness that is so essential to a dynamic group with groupness.

No interest group, as sophisticated as educational psychologists, would be tempted to overgeneralize these results. First, the subjects in our experiments were adults who may have overlearned those ways of working out problems that stressed the individual; second, the solutions did not have to be carried into action. While the individual adult, student or officer, may have made a decision or solved a problem as well as or better than the group, this does not suggest that the individual solution must, necessarily, be carried out as well as a group solution or decision; and third, no attempt was made to ascertain what each individual as individual got from the group process of deliberation and closure.

The three limitations to generalizations about individual over group superiority should suggest that educational psychologists must develop hypotheses and the means for evaluating them; the attainment of curricular objectives not only for relatively immediate consequents but also for long time transfer to the tasks and problems that living affords. Indeed, the groupness of the educational psychologist lies not so much in the affiliations with other interest groups; but in the common purposes and needs to get at the facts, generalizations and applications that will lead to better teaching and better learning among themselves and for those that must learn. Groupness for educational psychology is a function of our communications and transactions.

A RELATIVISTIC DEFINITION OF STIMULUS-RESPONSE

MORRIS L. BIGGE

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Stimulus and response are terms which have become deeply embedded in the vocabulary and the ideas of educational psychology. In recent years the ideas represented by these words often have been made to correspond to the concepts of cause and effect as used in the physical sciences. Psychologists, in their attempt to avoid assumption of any metaphysical purposiveness, have posited a mechanistic behavior devoid of purpose in any sense, teleological or otherwise.

Current mechanistic educational psychology shows the influence of attempts to derive directed activities without assuming directed dynamic factors in human behavior. Behaviorists and connectionists have attempted by means of concepts, such as "goal gradient" or "law of effect," to recognize directed factors in behavior without surrendering a basically mechanistic position. Inasmuch as it is coming to be generally recognized, in educational psychology, that an atomistic stimulus-response idea is not adequate for describing human behavior, the tendency of many contemporary psychologists who continue to hold to a mechanistic outlook is to speak of "molar behavior" and of "total responses to patterns of stimulation." Educational psychologists may recognize behavior as molar, speak of situations and patterns of response, and emphasize "belongingness"; yet, as long as they maintain their allegiance to some modern version of associationism such as behaviorism or connectionism, they are clinging to a frame of reference fundamentally different from, and incompatible with, that of a truly relativistic field-theoretical approach.

Gates states, "The term *connection*, bond or tendency, does not refer to any neurological concept or agent at all. It refers to a functional relation between a situation and a response. It refers to an observed phenomenon and implies no neurological correlate. It implies nothing except that there is an observed tendency for a situation to be followed by a response." (*6*) He later continues,

"Stimulus-response is a psychological, not a neurological theory." To one relativistically oriented, "psychological" means in harmony with the logic of a growing mind. Thus in the interest of consistency, there would seem to be a need to redefine stimulus as something other than a "situation to be followed by a response." For a stimulus to be a stimulus a response must be going on.

A prevalent current practice among educators of defining learning as change in behavior reflects or implies mechanistic definitions of stimulus and response. Observable *results* or *outcomes* of learning are interpreted to be the actual learning. It is true that when a person has learned or is learning, his behavior probably changes. However, it does not follow that, for learning to take place, there must be an observable change in behavior. Change of behavior is an indication that learning has been or is taking place, but the change of behavior is not the learning. Learning is more adequately defined as development of insight or understanding.

Traditionally, within patterns of mechanistic psychologies, insight has been defined as a special kind of learning. Insight as used by a relativist does not necessarily imply, "some penetration into the (absolutely) true nature of things." (*9*) It means the way one senses or sees things in a situation. It is a basic sense of pattern or relationship (*1*). Insight, thus, might be defined as a "sense of belongingness"—should belongingness be construed in non-mechanistic fashion. However, it cannot be defined as a sense of belongingness that is gained through repetition, in that repetition as such is not essential to the learning process. A more adequate theory would define all learning, at least so far as human intelligence is involved, as development or modification of insights. Insights are instrumentally, but not absolutely, true. They serve as accurate or dependable guides for action.

A relativistic field theory differs from any mechanistic theory of human behavior in that it assumes that intelligent behavior is purposeful. This assumption, however, is accompanied by no attempt to assert or deny existence of teleological forces. It simply means that a person, behaving intelligently, acts as if he were trying to do something; and that, if one is to predict accurately what a person will do in a given situation, he must envision what that person is trying to do.

Two basic tenets of a field theory are that behavior is to be derived from a totality of contemporary co-existing factors, and that

these are to be considered in a dynamic field of such nature that the state of any part of a field depends upon every other part of that field. A relativist, in the study of intelligent human behavior, assumes that each person is unique in purpose and in experiential background; and that the reality upon which one bases intelligent action consists of that which he *makes* of the objects around him. In any field—science, social relations, morality, and even religion—each individual is the maker, not of *the* world but of his *notion* of the world. For psychological theory to be most applicable to the problems of modern education, in light of the present stage of scientific development, mechanistic patterns of thinking must be superseded by conceptualizations subsumed under a relativistic outlook. This relativistic outlook in educational psychology would reflect the influence of field theories such as those developed by Kurt Lewin, Boyd H. Bode, and kindred academic spirits, and would harmonize with the philosophic outlook of John Dewey.

If the terms stimulus and response are to be retained and incorporated into a field psychology, developed within a relativistic frame of reference, their meanings must be carefully redefined to harmonize with this pattern of thinking. Field psychology entails a situational point of view as opposed to the historical approaches of most earlier psychologies. Behavior depends on neither the future nor the past but on the present field. To predict behavior of a person one must take into consideration his total contemporaneous life-space which includes the person, his environment, his insights, and his goals.

TREATMENT OF MOTIVATION

A relativist in educational psychology assumes that intelligent human action is purposive and must be interpreted in light of the goals it is designed to achieve. An individual acts in such a way as to achieve his goal or goals—satisfy his wants or desires—in the quickest and easiest way that he comprehends or senses as possible under existing conditions. When a person behaves intelligently, he acts as if he is pursuing a purpose and as if he has some foresight as to how the purpose is to be achieved. When one has a purpose, he displays a capacity to refer present conditions to future results, as well as future consequences to present conditions.

Man's ability in abstraction and conceptualization enables him to define his purposes symbolically, through use of articulate

speech. When a person is motivated toward doing something, his description of the situation is that he wants or desires to do it. He consciously carries activity forward to a goal through a process within which he constantly searches out conditions for the next step, all along the way. Moreover, a relativist who takes his relativism seriously sees continuity in the nature of learning throughout the animal kingdom. He observes purposefulness of behavior in adults, in children, and in lower animals, each on his own intellectual level.

Conventional laws of psychology are based on statistical predictions. Statistical predictions may apply to the average of children or to the typical behavior of an age-group, but they do not predict what a certain given person will do in a specific situation. Objectivity in psychology demands representing the field adequately and accurately as it exists for the individual in question at a particular time. Thus, in a sense, to be objective in psychology one must be subjective. One must look at things as the person being studied looks at them. In Lewin's basic formula, $B = f(P,E)$, behavior is produced by the totality of co-existing facts. This totality is a psychological field. This psychological field is not defined in terms of mere consciousness or awareness. Rather, it is a dynamic whole of such nature that a change in any part affects other parts, and every change depends upon the whole. Behavior is a *f*—function of *P*—psychological person and *E*—psychological environment.

Mace (*8*) has developed some extensions of Cannon's theory of homeostasis; (1) what is maintained or restored is not so much an internal state of an organism as some relation of an organism to its environment, (2) discovery of new equalibria is a more apropos description than restoration of equilibrium, (3) in the end state of a goal-directed process something is discovered which has not been experienced before or new goals are created. In attention, tensions are set up when we are presented with something incomplete, unclear, or unfamiliar. A task is presented or a problem is posed. Processes ensue which terminate in completion of the task or solution of the problem. Something is discovered and in discovery tension is relieved.

A relativist, in defining psychological terms such as stimulus and response, assumes a bi-polar relationship of person and environment. Instead of thinking of an environment (stimuli) impinging

upon a physical organism, he assumes that in any situation a person acts in accordance with the psychological field which he perceives. This field is not defined in "objective," physicalistic terms, but in the way it exists for a person at a given time. A thing is perceived only as a relationship among an object, a viewer, and the background of the situation. In a psychological field, rather than passive behavior as a mechanistic response to an activating environmental factor called a stimulus, there is postulated an actively interactive experience—conscious behavior. Experience consists of a person trying something and simultaneously undergoing or noting the consequences of his attempt. "To 'learn from experience' is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequences." (*4*)

INTERACTION—PASSIVE OR ACTIVE?

Interaction is a popular term in current treatises on educational theory. When one searches for an incisive definition of the concept he finds that, in describing person-environment relationships, the word is used in two quite different senses. It may be used to denote a passive process within which a person or an organism is stimulated or modified by the environment and, in turn, the environment is modified by the organism. Each, organism and environment, is assumed to be passive while it is being acted upon by the other; e.g., a man is bitten by a dog, then the dog is kicked by the man. A stimulus from an object impinges on the end organs of a passive organism. The organism then responds. The temporal sequence is stimulus-organism-response. Since it is recognized that a human organism can modify its environment—change something outside of itself—the process within which the environment influences is called interaction or the interactive process.

Interaction has been used in a second (relativistic) sense by John Dewey and others to describe a process in which a person actively appraises his environment as contrasted with his being passively stimulated by it. "An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment." (*5*) One's environment consists of those conditions which interact with personal needs, desires, purposes and capacities to create the present experience. Experience includes an active and a passive element

peculiarly combined. "On the active hand, experience is *trying*. . . . On the passive, it is *undergoing*. When we experience something we act upon it, we do something with it; then we suffer or undergo the consequences. We do something to the thing then it does something to us in return: such is the peculiar combination. The connection of these two phases of experience measures the fruitfulness or value of the experience. Mere activity does not constitute experience" (*4*).

The concept of active interaction in experience involves a description of situations. For a person to live in a world he must live in a series of situations. One experiences through acting and perceiving the consequences of his acts. Every experience both takes up something from those experiences which have gone before and modifies in some way the quality of the experiences which follow. It influences in some degree the objective conditions under which future experiences are had. When a child learns a thing, he determines to some extent the environment in which he will act in the future.

In Lewin's basic formula $B = f(P,E)$, the state of the person and that of the environment are not mutually independent. In a sense, the state of the environment depends upon the person and, conversely, the state of the person depends upon his environment (*7*). It is impossible to derive the psychological processes in the life-space without including, in the representation, changes in both person and environment. A bi-polar relationship of person and environment determines behavior. The psychological environment is the environment as it exists for the person. It is not identical with a person's physical surroundings. Everything in which, toward which, or away from which a person can perform psychological locomotion is part of his psychological environment. "One of the basic characteristics of field theory in psychology, as I see it, is the demand that the field which influences an individual should be described not in objective physicalistic terms, but in the way in which it exists for that person at that time. . . . To describe a situation "objectively" in psychology actually means to describe the situation as a totality of those facts, and of only those facts, which make up the field of that individual" (*7*).

A relativist, taking available data into consideration and harmonizing it to the best of his ability, concludes that a concept of active interaction is highly fruitful in a scientific study of human behavior. He recognizes that there are incidents in which one is

passively influenced by an object from outside his organism; e.g., when a man not cognizant of any danger is shot from the back. However, whenever there is intelligent behavior, active interaction is highly descriptive of the situation. One cannot derive behavior teleologically from the future, neither can one derive it from the past. A psychological event is always a result of the interaction of many factors and is to be explained in terms of apparent relations.

Psychological person and psychological environment function as sub-wholes of a psychological, contemporaneous field or life-space. If stimulus and response are to be retained as descriptive terms in this frame of reference, stimulus suggests environment-centeredness whereas response refers to the functioning of cognitive and manipulative abilities of a person.

STIMULUS AND RESPONSE DEFINED WITHIN RELATIVISM

A relativist does not insist on discarding the terms, stimulus and response; neither, however, does he use them in the mechanistic sense of their origin. Behavior, for him, is not a passive response to an activating environmental factor called a stimulus. He sees little basis for assuming that "a crucial interval of delay occurs" (*3*) between the psychological stimulus and the psychological response. He redefines stimulus and response to mark a distinction within a larger field. Since an entire field operates as a unit, stimulus and response cannot be separated from each other temporally; they can be contrasted only in terms of function. To repeat, for a stimulus to be a stimulus a response must be going on. One does not first see objects and then respond to them—he sees objects in terms of the response he makes to them. "The reason why we speak of a stimulus at all is that the coördination or situation is *inadequate*; there is a drive or pressure towards a better coördination or adaptation. The stimulus is that phase of the situation which requires to be made more definite or explicit; the response is constituted by the reactions which create the need for a more adequate determination of the conditions for further activity. A stimulus, then, is a stimulus, in a psychological sense, only as long as there is this need of greater definiteness. When this definiteness is achieved, there is no longer any purposiveness at this point; the resultant action becomes an element in the next coördination" (*2*). Events such as seeing and hearing take place because, already, action is going on. The response is not a consequence of a sensory experience but is an antecedent or condition of it. Thus the reflex-arc hypothe-

sis, in which the activity is a pure sequence, seems inadequate to explain intelligent human activity.

Stimulus and response, in so far as they are related to intelligent behavior, operate concurrently and simultaneously. In any perceptual situation, the whole field, including the organism, is actively interactive from the start. The existence of neural couplings need be neither affirmed nor denied. The point is that the concept of couplings or connections is inadequate for describing the function of learning in the most fruitful manner. There is a certain definite set of the motor apparatus involved in hearing just as much as there is in subsequent running away. Movement and posture of the head and tension of the ear muscles are required for "reception" of a sound. It is just as true to say that a sensation of sound arises from a motor response as that running away is a response to a sound.

When behavior is viewed mechanistically it is assumed that a stimulus merely activates or starts an activity of an organism, whereas, if intelligent behavior is assumed to be purposive, a stimulus undergoes continuous reconstruction throughout the whole course of the activity. A stimulus is a continually changing directive factor—directive in the sense of acting as a tool for achieving a goal. It changes coöperatively with the organic response as a person progresses toward his goals.

REFERENCES

1) Ernest E. Bayles, *The Theory and Practice of Teaching*. New York, Harper & Brothers Publishers, 1950, p. 51.

2) Boyd H. Bode, *How We Learn*. Boston, D. C. Heath, 1940, p. 230.

3) Lawrence E. Cole and William F. Bruce, *Educational Psychology*. New York, World Book Company, 1950, p. 53.

4) John Dewey, *Democracy and Education*. New York, Macmillan, 1916, pp. 163–164.

5) John Dewey, *Experience and Education*. New York, Macmillan, 1938, p. 41.

6) Arthur I. Gates, "Connectionism: Present Concepts and Interpretations," *Forty-first Yearbook of the National Society for the Study of Education, Part II*. Chicago, University of Chicago Press, 1942, pp. 145–146.

7) Kurt Lewin, *Field Theory in Social Science*. New York, Harper and Brothers, 1951, p. 62.

8) C. A. Mace, "Homeostasis, Needs and Values." *British Journal of Psychology*. August, 1953, 44: 3.

9) R. S. Woodworth, *Psychology*. New York, Henry Holt and Company, 1940, pp. 299–300.

A COMPARISON OF DAVIS-EELLS AND KUHLMANN-FINCH SCORES OF CHILDREN FROM HIGH AND LOW SOCIO-ECONOMIC STATUS

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The Davis-Eells Games (*2*) have recently been published as a group intelligence test purportedly more culturally fair than other available group tests. The authors and their colleagues at the University of Chicago (*4*, *6*) have written much about the need for culturally free measures of intelligence and have hypothecated that no significant differences exist in the mean ability of youngsters from different socio-economic levels (*4*, *6*). They have cited studies (*2*) that seem to indicate that most of the available group intelligence tests have been culturally loaded, discriminating against children of low socio-economic status. They have further suggested that the curriculum in most public schools reflects middle class values (*1*).

PROCEDURE

To evaluate the claims made by Davis and Eells (*2*) for their test, elementary school children in three large cities in Tennessee were given the Davis-Eells and the Kuhlmann-Finch (*5*) tests.

In two of the communities, Memphis and Nashville, pupils in the third and fifth grades were tested in schools selected as representing the highest and lowest socio-economic areas in the city. In Knoxville, a modified Warner socio-economic index (*4*, Ch. XI) was used to select 27 children of very high and 27 of very low socio-economic status. The subjects were all members of the Caucasian Race.

All subjects were given both tests with the order of administration the same for the high and low socio-economic groups at the same grade level in the different cities. All tests were administered by the regular classroom teachers with general supervision from

TABLE 1—KUHLMANN-FINCH AND DAVIS-EELLS MEAN IQ SCORES AND STANDARD DEVIATIONS FOR EIGHT GROUPS OF ELEMENTARY PUPILS FROM THREE LARGE CITIES

	Kuhlmann-Finch		Davis-Eells		N	Grade
	M	σ	M	σ		
Knoxville, First Grade						
High socio-economic	108.59	8.1	103.07	15.1	27	1
Low socio-economic	95.37	11.1	86.37	13.6	27	1
Nashville, Third Grade						
High socio-economic	104.17	11.2	104.47	11.8	30	3
Low socio-economic	91.35	12.2	90.62	12.4	26	3
Nashville, Fifth Grade						
High socio-economic	107.90	12.9	113.85	11.3	28	5
Low socio-economic	95.65	12.5	99.63	9.8	30	5
Memphis, Third Grade						
High socio-economic	108.35	14.4	108.64	16.6	109	3
Low socio-economic	100.05	12.5	96.62	13.7	117	3

the guidance directors[1] in Memphis and Nashville. Miss Norene Bogart administered the tests in Knoxville in conjunction with her master's thesis.

The hypothesis was tested that differences in mean scores on the two tests would not be statistically different for the low or high socio-economic groups. To substantiate the claims made for the Davis-Eells Games, the scores made on this test by children of low socio-economic status would have to be significantly higher than on other tests, whereas children from high socio-economic homes would probably fall below on the Davis-Eells as compared to other tests.

FINDINGS

Table 1 shows the Davis-Eells and Kuhlmann-Finch mean I.Q. scores and standard deviations for all of the groups tested. To test the hypothesis stated above, analysis of variance was used (*3*). The results of this analysis are presented in Table 2. Bartlett's test was used to demonstrate homogeneity of variance.

As may be seen from the F ratios given in Table 2, the mean

[1] The authors wish to express their appreciation for the coöperation of Dr. Ellen Piers of Nashville and Miss Catherine Moores of Memphis in the gathering of these data.

TABLE 2—ANALYSIS OF VARIANCE OF TEST SCORES FOR FOUR GROUPS OF HIGH AND LOW SOCIO-ECONOMIC SUBJECTS ON THE DAVIS-EELLS AND KUHLMANN-FINCH

Source of Variation	Sum of Squares	df	Mean Square	F
Between tests	379.71	1	379.71	6.352
Between socio-economic levels	25,668.22	1	25,668.22	429.38*
Between pairs	4,759.36	3	1,586.45	26.53†
Interaction: test and socio-economic level	300.15	1	300.15	5.026
Interaction: test and pairs	2,545.44	3	848.48	14.19*
Interaction: socio-economic and pairs	1,205.03	3	401.67	6.719
Triple interaction	99.40	3	33.13	0.554
Within groups	46,153.19	772	59.78	
Total	81,110.50	787		

* Significant at the 5% level of confidence.
† Significant at the 1% level of confidence.

IQ scores on the Davis-Eells for the low socio-economic groups are not significantly higher than for the Kuhlmann-Finch. For the high socio-economic groups, the mean IQ scores on the Kuhlmann-Finch are almost the same as for the Davis-Eells.

These data would seem to support the tenability of the hypothesis that no mean differences exist for low or high socio-economic groups on the Davis-Eells Games compared to the Kuhlmann-Finch Intelligence Test. The claims made for the Davis-Eells Games are not supported in this study, which leaves unsettled the question as to whether there are basically no mean differences in reasoning or intellectual ability for children of high and low socio-economic status if tests could be developed free from cultural learnings. The present writers know of no way to test this assumption, but they believe that the position that mean differences in reasoning ability exist between low and high socio-economic groups is at least as tenable a position (*8*, *10*) to take as the one adopted by Davis, Eells, Haggard, and their colleagues.

The F ratio between socio-economic levels in Table 2 is 429.38, which is significant at the 5% level of confidence. Thus, the mean scores on both tests are significantly higher for the high socio-economic children over the low socio-economic children. This is not a novel finding as it concurs with previous studies with older

group intelligence tests (*6*). Since the claim cannot be made that the two instruments are measures of innate capacity devoid of environmental influences, the present authors recognize that the data do not constitute conclusive evidence for the hypothesis they have advanced.

In Table 2, the F ratios for the between pairs comparison is significant at the 1 % level of confidence. The data available do not permit an analysis to determine whether this significant difference is attributable to the differences in schools from the three communities or to factors associated with grade level. Lennon (*9*) has demonstrated that achievement at one grade level in a community does not permit accurate prediction for another level.

If Table 1 is re-examined, it might be noted that there are variations in mean IQ's from grade level to grade level and from community to community for each of the tests, and also between the tests. Such data need to be brought to the attention of those test users who remain convinced that the IQ is a completely reliable concept irrespective of the test used, grade level tested, or norms obtained by the publisher.

Correlations between the Davis-Eells and the Kuhlmann-Finch were also computed in view of the following comments made in the manual for the Davis-Eells Test (*2*, p. 11).

"The correlations of Davis-Eells scores with scores on other group intelligence tests should not be expected to be as high as has sometimes been reported for group tests in the past. The present test is built around a specific definition of intelligence in terms of ability to solve problems of a kind important and interesting to children; most intelligence tests in the past have been constructed specifically to predict academic success in the ordinary school situation."

The median r for the ten groups was .63 which is not much lower than the coefficients of equivalence or stability reported for the Davis-Eells (*2*, p. 20–21) or the split-half reliabilities (corrected) for the Kuhlmann-Finch (*5*, p. 53). The unreliability of both instruments would probably account for most of the variance not accounted for in the correlations between the two tests. This would seem to be evidence contradicting the claims made for the Davis-Eells quoted above.

SUMMARY AND CONCLUSIONS

In an effort to test the claims made for the Davis-Eells Games with respect to the cultural fairness of the test, 194 children from high and 200 from low socio-economic homes in three cities were administered the Davis-Eells and the Kuhlmann-Finch tests. The data obtained did not support the claims for the Davis-Eells that its items are culturally more fair than items used in other group intelligence tests. The writers have questioned the appropriateness of the assumptions made by Eells, Davis, Haggard, Havighurst, et al., that mean differences in innate ability between children of high and low socio-economic status are insignificant.

REFERENCES

1) Allison Davis, *Social-Class Influences Upon Learning.* (The Inglis Lecture, Harvard University, 1948). Cambridge, Mass., Harvard University Press, 1948.

2) Allison Davis and Kenneth Eells, *Davis-Eells Test of General Intelligence or Problem-Solving Ability Manual.* New York, World Book Company, 1953.

3) A. L. Edwards, *Experimental Design in Psychological Research.* New York, Rinehart and Company, 1950.

4) Kenneth Eells, Allison Davis, *et al., Intelligence and Cultural Differences: A Study of Cultural Learning and Problem Solving.* Chicago, University of Chicago Press, 1951.

5) Frank Finch, *Kuhlmann-Finch Intelligence Tests Manual.* Philadelphia, Educational Testing Bureau, 1953.

6) Ernest A. Haggard, "Some Effects of Practice, Motivation, Item-Content, and Form of Administration Upon Intelligenic-Test Performance: An Experiment." *Genetic Psychology Monographs*, 1954, 49: 141–186.

7) Ernest A. Haggard, *Techniques for the Development of Unbiased Tests in Proceedings 1952 Conference on Testing Problems.* Educational Testing Service, 1953. Pp. 76–82.

8) Irving Lorge, *Difference or Bias in Tests of Intelligence in Proceedings 1952 Conference on Testing Problems.* Educational Testing Service, 1953. Pp. 76–82.

9) Roger T. Lennon, Stability of Achievement Test Results. *Educ. and Psychol. Measmt.*, 1951, 11: 121–127.

10) Fred T. Tyler, Comments on the Correlational Analysis Reported in Intelligence and Cultural Differences. *J. Educ. Psychol.*, 1953, 44: 288–295.

THE DOMINANT ATTITUDES OF NEGRO TEACHERS TOWARD INTEGRATION IN EDUCATION

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The decision of the Supreme Court that segregation in public education is unconstitutional will create certain problems which will arise as two large groups of people are brought together on an equal status basis for the first time. These groups will bring with them into an integrated system a background of varied experiences. They will view each other largely in terms of their experiences in a segregated culture. As they move from a segregated system into an integrated one, established patterns of living will be disrupted and this disruption will provoke differing feelings and attitudes. These feelings and attitudes must be considered in programs designed to effectuate integration. This study was undertaken in order to discover the nature of some of these feelings and attitudes which are provoked in Negro teachers with reference to the Negro's general ability to compete and to adjust in an integrated system.

The basic approach is qualitative, that is, subjective responses were elicited from a number of students without structuring the situation in advance. The responses were categorized, thus permitting some quantification. The categories used were derived from a content analysis of the responses and were not imposed *a priori*. It was assumed that simple verbal behavior is indicative of attitudes and that a suitable picture depicting a Negro on the campus of a southern white college would elicit from the subjects certain attitudes which were essentially their own and which would not be tapped by use of objective techniques.

SUBJECTS AND PROCEDURE

Twenty-five Negro subjects participated in this study. They were enrolled in a graduate course in educational psychology and were pursuing the Master of Arts degree in Education. There were five males and twenty females whose teaching experience ranged from one to nineteen years. These individuals were graduated from sixteen different Negro colleges in seven southern states and the

District of Columbia. Inasmuch as this was an exploratory study, no effort was made to secure a representative sample of the universe from which the subjects came.

The cartoon technique was employed. The cartoon was chosen after several preliminary test situations proved it to be sufficiently unstructured to yield a variety of attitudes about integration in public education, and at the same time, sufficiently structured to elicit attitudes relevant to Negroes attending the Georgia Institute of Technology.

The picture, in black lines against a white background on eight and one-half by eleven paper, shows a male figure with a black face, white lips and a rather large mouth partly open standing in front of a building. He has on slacks, and the sweater which he is wearing has a "T" on the front of it. He has books under his left arm with the left hand in his trouser pocket. Under his right arm he carries a "T" square. A building stands in the background with a clock in the tower a[illegible] TECH can be seen engraved on each side of it. Beneath the drawing, a musical note is in front of these words, "Ah's a ramblin wreck from Georgjah Tech."

The drawing was presented to each individual subject for examination during a regular class period. The drawing was then placed where it could be observed by each class member and the following statements were made:

"Let us assume the artist released this drawing after the Supreme Court ruled that segregation was unconstitutional in public education. Let us assume further that the student publication staff at Georgia Tech released it. Look at the drawing carefully and you will observe a Negro on the campus. Now write your reactions to this observation."

All of the students knew that the caption under the drawing was a dialect quotation from the Georgia Institute of Technology school song. No time limit was placed upon the writing, and after each student completed the task the essays were collected.

The essays were analyzed for statements which implied an attitude toward integrating the Negro in public education. It was found that the one hundred and twenty-four items fell into seven categories. The seven categories established to define the attitudes expressed by the subjects were: intellectual inadequacy, rejection, social inadequacy, stereotyped beliefs, acceptance, resentment and ambivalent attitudes.

To check on the keying procedure by the investigator, three judges trained in psychology and sociology were employed. Each judge was given the definitions of behavior and the items grouped under each category. They were asked to check on the keying procedure in terms of the definitions of behavior, the items assigned to each category according to the attitudes implied, and each item listed under the category which did not parallel the definition of behavior.

The judges accepted the definitions of behavior established and the general body of items listed under each category except that of resentment. They considered the items listed under resentment too similar to those under rejection to form a separate category. Therefore, the body of items listed under resentment was placed under the category of rejection. Twenty-four miscellaneous items were eliminated because they were judged by the jury not to parallel the definition of behavior under which they were listed. Thus, ninety-six items were retained in the final classification under six categories in the order of frequency as shown in Table I.

PRESENTATION OF DATA

To illustrate the attitudes categorized in Table I, the statements in each area will be described in more detail. Twenty-nine per cent of the items fell into the category of intellectual inadequacy. These items expressed the idea that the Negro was deficient in the special abilities which are necessary to become a successful engineer. Two levels of inadequacy were indicated. The first level expressed the idea that the Negro is attending Georgia Tech, but he is having difficulty in accomplishing the academic tasks. In fact, they doubt if

TABLE I—CATEGORIES OF ATTITUDES EXPRESSED TOWARD INTEGRATION BY RANK AND FREQUENCY OF ITEMS

Category	Frequency of Items	Per Cent
Intellectual inadequacy	28	29.0
Rejection	21	22.0
Social inadequacy	15	15.6
Stereotyped beliefs	13	13.5
Acceptance	11	11.5
Ambivalent attitudes	8	8.0
Total	96	99.6

he has the ability to perform the tasks required in the school of engineering on a par with the white students. His inability to accomplish these tasks is expressed in such statements as the following: "He cannot master the work to become an engineer at Georgia Tech." "He has the tools and books necessary to do school work, but he does not accomplish it." "The school is so rigid that the Negro will have difficulty in trying to be a successful student." "The Negro has to go from place to place with his books and equipment realizing that every minute is needed for study."

On the second level of intellectual inadequacy, the Negro has completed the academic requirements at Georgia Tech, but he has not acquired the behavior expected of an adult engineer in our culture. The items on this level depict him as not accomplishing much after graduation, as an unfinished product, as not being able to fit in any job situation very well, and as not making any contribution to the school. The attitudes expressed here are not surprising since engineering is a field in which Negroes have only recently been permitted to enter.

Twenty-two per cent of the items fell in the second category expressing rejection. These items are concerned with not being wanted or needed in the social situations considered to be normal school activities. It is felt that the Negro would be permitted to attend Georgia Tech, but he would be ostracized and humiliated in his school experiences. There is a widespread feeling that the whites resented the Negro's intruding in their schools and that he would be made to feel that he did not belong there. The attitudes expressed in this area are: "The Negro will attend Georgia Tech, but will be socially ostracized by the white group." "After the person tried to enter school, his experiences were not wholesome so he is leaving, confused and displeased." "Negroes are not wanted at Georgia Tech." "White people in Georgia are not willing to accept Negroes in white schools."

The third category, social inadequacy, includes fifteen and six-tenths of the items as shown in Table I. These items convey the idea that the Negro is unable to employ the necessary social skills for the maintenance and enhancement of self in an integrated system. Thus, as the Negro moves from the segregated schools into the integrated system, the lack of social skill in mixed racial groups will foster self-consciousness rather than a feeling of confidence. Throughout this category the attitude was implied that the Negro

was unstable, lacked self-control and did not have the skills expected for social living to feel competent as he moves out of a segregated culture. These views are variously expressed: "He is unstable and does not have much control over himself." "It depicts him as one who has not been able to find himself and make the necessary adjustment." "They feel when he enters, he will not be able to cope with the situation." "It is hard for him to adjust at Georgia Tech."

"Stereotyped beliefs" was the fourth category; these beliefs included thirteen and five-tenths per cent of the items which referred to standard conceptions of the attributes portraying supposedly distinctive traits of the Negro. In this area the body of items included statements similar to these: "He will attend classes looking very shabby." "He is a typical Negro—wide nose and big lips." "He is unkempt and happy." "The Negro boy is gleefully singing." "Negroes are going to 'overflood' the school."

The fifth category includes items which express the attitude of acceptance. Eleven and five-tenths per cent of the total items are in this category. These items express an attitude which is the reversal of the patterns of behavior expected of a Negro in a segregated culture. The Negro is viewed as attending integrated schools on an equal-status basis with whites. Morever, those in this category felt that the removal of segregation in education will result in the disappearance of other restrictions which will permit the Negro to be an individual in integrated schools and permit him to participate in those activities which are important to him. In this category some of the items are: "He feels a new freedom." "He feels he can combine his social aspect of life with the academic aspect and be accepted in both." "He feels he can attend Georgia Tech on an equal status with whites." "His dress seems to indicate that he feels he can proceed now on his individual merit rather than because he is a 'proper' and 'correct' Negro."

The final category, ambivalent attitudes, which includes less than 10 per cent of the items, is characterized by the simultaneous existence of contradictory goals of equal importance to enhance self. The conflict is whether the Negro would rather remain in a pleasant situation where the educational facilities are meager for Negroes or go to integrated schools which are better equipped, but where his social relations would be uncertain. There appears to be a feeling that his status would be enhanced when he attends the integrated schools, but he is faced with the problems of uncertainty

of the white group's reaction to him. These feelings were expressed in such items as: "He is deciding whether he should stay and learn what Georgia Tech has to offer or go to a more pleasant surrounding with fewer educational facilities." "The boy desires to take advantage of the engineering course, but he also desires to be away from the unpleasant environment." "He thinks he would feel better if he had remained in a segregated school." And, "The artist is portraying the boy's reluctance to go to Georgia Tech even though he has permission to go."

SUMMARY

When the subjects in this investigation interpreted the situation depicting the elimination of segregation in public education, six kinds of attitudes were categorized. The complete array of items listed under each category was not given in the body of this paper but samples of these items were listed as well as the percentage distribution and the number in each category. It appears that the samples of these items and the percentage distribution will suffice to suggest the kinds of attitudes evoked when Negro subjects reared in a segregated culture perceive this change. However, when the items listed under the categories of intellectual inadequacy, social inadequacy, rejection and stereotyped beliefs are examined, it is interesting to observe the negative aspect of the attitudes. It would appear that an individual who holds such negative attitudes as these would enter an integrated school system with inhibitions which would prevent him from competing on an equal status basis with his peers. Moreover, the attitudes expressed in the ambivalent category seem to have this same negative element. In this category the high esteem which the Negro holds for the majority group and the desire to enhance his status by attending integrated schools can be detected, but he also expresses the feeling that he is most comfortable with the minority group of whom he is most critical.

On the other hand, attitudes were expressed to indicate the subjects were adequate to accept the elimination of segregation in public education. It appears that the individual's concept of self and the expectations demanded of him by the elimination of segregation were in harmony. In the new situation the Negro felt he would be accepted on an equal-status basis and would be competent to participate in those activities which were important to him in an integrated system.

It is interesting to note that eighty-eight per cent of the statements expressing attitudes were in categories which reflected an awareness of the problem of adjustment; whereas, only eleven per cent were not problematic. Thus, it can be assumed from these data that an individual's attitudes toward integration in public education are diversified and are not reflected in an "agree" or "disagree" response. Moreover, since this is an exploratory study which deals with the attitudes toward the elimination of segregation as presented by Negro subjects, it is suggested that a similar study be made with a representative sample of Negro and white subjects reacting to a series of scenes depicting integration. A repetition of this study along these lines would provide an opportunity to test the validity of this method in drawing forth experiences in this area. Secondly, it is suggested that we analyze the process of social adjustment to determine what specific skills are needed as individuals move from a segregated system into an integrated one. And finally, it is suggested that we determine the common objectives that can be established in the process of integration to minimize the attention given to the differences between racial groups which seem so prevalent in a segregated culture.

THE DEMOCRATIC COLLEGE STUDENT

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Educators are charged with a responsibility of helping students grow toward democracy. To meet this responsibility they are required to select experiences, provide rewards, set limitations and structure activities that culminate in democratic attitudes and behavior. Teachers, counselors and others in education are forced to make selections and apply decisions largely by guess and by chance, because there is no body of tested experience that is known to develop democracy.

A recent study, *The Authoritarian Personality* (*1*), and several others in a series on prejudice have extended our knowledge toward identification of experiences likely to develop democracy. The experiences identified are characteristically: (a) patterned in complex, extended systems with personality involvement, and (b) those of childhood and early life. The inter-relationship and complexity are pointed out in the conclusions of one of the studies:

The most crucial result of the present study, as it seems to the authors, is the demonstration of close correspondence in the type of approach and outlook a subject is likely to have in a great variety of areas, ranging from the most intimate features of family and sex adjustment through relationships to other people in general, to religion and to social and political philosophy. Thus a basically hierarchical, authoritarian, exploitive parent-child relationship is apt to carry over into a power-oriented, exploitatively dependent attitude toward one's sex partner and one's God and may well culminate in a political philosophy and social outlook which has no room for anything but a desperate clinging to what appears to be strong and a disdainful rejection of whatever is relegated to the bottom. (*1*)

Another study in the series stresses the very early development of attitude:

Education for tolerance must reach the child before he is of school age since that is the age during which the rudimentary personality is first formed and those tendencies first developed which become more rigid as the individual approaches the age of maturity. (*2*)

If the roots of democracy are so multitudinous and if their beginning is so early in life, then the selection of experiences that foster democracy require knowledge of the individual, knowledge of the effects of experience, and applications of these knowledges that should be conspicuous for their wisdom. Unless educators are to abandon their responsibilities they must search for such roots of democracy. Otherwise their selections among learning activities will not be superior to those that might have been made by lay intuitions.

The matter reported here adds something to our meager knowledge of democratic attitudes as they are related to the experiences of college students. The data here are part of a larger project directed toward the measurement of attitude. *A Coöperative Study of Evaluation in General Education* undertook as one aspect of its work to measure a democratic attitude of respect for the worth and dignity of every individual. In the development of the instruments there were investigations of many kinds. Two of the supporting investigations at Western Washington College of Education were directed toward description of democratic students in terms of competencies, life experiences and other identifiable characteristics.

A preliminary study sought to identify a sample group of students who displayed democratic attitudes and a sample group with non-democratic attitudes. Thirty faculty members, in ten committees of three members each, selected students who exemplified extremes in the presence or the absence of a democratic attitude of respect for others. The committees were forced to derive their own definitions in order to avoid the structuring which might result from the biases of any explanation. They were also asked to record data substantiating their judgments. The list submitted by these committees consisted of 67 males and 42 females. Of these 109 cases, seven students were listed in both groups and were therefore dropped from the sample. Students who were listed as possessors of the democratic attitude were found to have significantly distinguishing characteristics which suggest that differences exist other than those that are dependent upon attitude alone.

A second group of investigations used an advanced trial form of the *Problems in Human Relations Test* (*3*) and dealt with data from the responses of 1068 unselected college students. The sample consisted of 373 freshmen, 480 sophomores and juniors, 215 seniors;

612 men, 456 women. The *Problems in Human Relations Test* (PHR) is a partially disguised, multiple choice attitude test. It was scored on a major or "Democratic" D scale and on four sub-dimensions; "Hard-boiled Autocrat" (HA), "Benevolent Autocrat" (BA), "Laissez-faire" (LF), and "Resort to Expert" (RE). The sub-scales were designed to describe the nature of low "Democratic" scores. All of these scores were compared with more than fifty variables including: sex, age, interests, intelligence, English competence, reading skill, father's occupation and education, type of home community, critical thinking ability, high school grade point average, and philosophic point of view.

The consistent relationship of certain variables with scores on the democratic scale warrants generalization. Other marginal and not always consistent relationships suggest explorations but are perhaps not essential to discussion here.

The most pronounced and pervasive attitudinal difference that affected all other variables was a difference based on sex. Faculty judgment and test performance demonstrated that much more democracy existed among women than among men. From a student body with a 3 to 2 male majority, faculty committees selected almost identical numbers of men and women as examples of democratic students. These committees named students who embodied democratic attitudes and also named students characterized by lack of this attitude. Of all the women named, 71% were in the positive or possessor group, whereas only 46% of the men were so characterized.

Data from the subsequent test records of more than 1000 students evidence strong female acceptance of democratic responses. The mean democratic score for women was 17.22; for men, 15.15 and the critical ratio of difference was 7.67, well above the .01 level of significance. Subsequently, separate norms were used.

The democratic limitations of male students are further defined in their autocratic and "laissez-faire" scores. A mean score of 4.76 on autocracy was significantly above the women's 4.00, with a critical difference of 6.49. Likewise, their "laissez-faire" mean of 1.60 was enough above the women's 1.45 to compute a critical ratio of difference of 4.84, demonstrating significance above the .01 level. It seems that masculinity is autocratic or at least non-participating but is not essentially democratic as defined by faculty committees or by the *Problems in Human Relations Test.*

Marked differences between democratic and undemocratic students were also found in academic competency. Students named in the positive group by the faculty were significantly superior in college grade points, in grade points for college science courses, in language skill as measured by the *Coöperative English Test* (Mechanics), and in academic capacity as measured by the *American Council Psychological Examination*. The significance of these differences is reported in Table I.

Later evidence based on a division of students by test scores rules out the possibility that the competency differences were really the basis on which democracy was rated. Correlations between democratic and competency scores yielded coefficients of .22 for reading, .38 for English total and .24 for the L score (ACE Psychological Examination). More striking relationships, however, were discovered when the lower quartiles of academic competence were considered as predictors of limited democratic attitude. Limitations in English grammar or mechanics were related to high scores on the anti-democratic subdimensions of the *Problems in Human Relations Test*. The students in the lowest quartile of English grammar had a mean score of 4.55 compared with the upper quartile mean of 3.54 on the (HA) "hard-boiled autocrat" category, with a computed critical ratio of 3.43. In the "benevolent autocrat" category this comparison was 5.51 to 3.64 with a critical ratio of 4.96. Total English scores were also significantly related. When a division was made on this basis, students with less adequate English scored 5.68 on "hard-boiled autocracy," whereas the abler students scored 4.50 with a critical ratio of 7.27. The comparison on "benevolent autocracy" is between scores of 6.00 and 3.66 with a difference of 2.36, significant at the 5 per cent level.

The "benevolent autocracy" subdimension was later dropped from the test due to internal shifts. These data did, however, dem-

TABLE I.—COMPARISON OF ACADEMIC SKILLS FOR STUDENTS RATED ON DEMOCRATIC ATTITUDE BY FACULTY

	Democratic	Non-Democratic	C/R
Academic GPA	2.76	2.50	4.23
Science GPA	2.55	2.25	4.98
Gross ACE.	116.78	111.94	2.48
Coöperative English	66.94	55.70	2.99

onstrate that low English scores are related to the undemocratic responses on the attitude test. The consistency of the conclusion was further demonstrated by the positive relationship between total English and democratic scores. Students in the top quarter of English performance scored a mean 17.86 on the "D" (democracy) scale whereas the lower quarter scored 12.70. This ratio of 6.78 reaches significance beyond the .01 level.

Among men the top quartile of hard-boiled autocrats scored a mean of 41.17 on the Linguistic or L scale of the *ACE Psychological Examination*. The least hardboiled of the male student group had a mean L (linguistic) score of 61.57. The significant ratio of 6.86 was computed.

It follows that students classified as democratic by this test have somewhat superior English skills but even more characteristically students with low democratic and high autocratic scores have limited English skills.

A third constellation of evidences centers on age and college tenure. The results summarized in Table II demonstrate an increase in democracy with a decrease in autocracy as students move from the freshman to the senior year. A shift away from benevolent autocracy was also found and this change, like the others, was much more pronounced for men than for women.

A reduction of autocratic scores occurred in male students. The average age of students in the upper quartile of autocratic scores was 21.10 years whereas it was 24.47 for those in the lower quartile. This difference is significant at the five per cent level. The greater change in men may reflect the lower initial scores or may result from a later male maturation. No evidence on this issue was available.

TABLE II—MEAN ATTITUDE TEST SCORES OF STUDENTS AT VARIOUS GRADE LEVELS

	Males				Females			
	"D"	C/R	"HA"	C/R	"D"	C/R	"HA"	C/R
Freshmen	13.55		5.31		16.90		4.47	
		6.18		3.13		1.10		1.45
Soph. & Jr.	15.28		4.68		18.31		3.67	
		5.36		1.75		1.78		0.36
Seniors	16.78		4.30		18.66		3.58	

TABLE III—CHANGES IN MEAN ATTITUDE TEST SCORES, ACADEMIC YEAR 1951–52

Scale (Dimension)	Fall	Spring Re-test	r	C/R
D	16.49	17.33	.70	3.23
HA	4.66	4.01	.49	4.64
LF	1.48	1.30	.40	2.25

More direct evidence of increase in democratic attitude was found in a comparison of fall-quarter mean scores and spring-quarter mean retest scores for 227 students as reported in Table III. The change between test and retest clearly confirms findings that during college the democratic responses are strengthened and the autocratic and laissez-faire responses are reduced.

A fourth group of relationships centers around personality, interest and critical thinking. *The Problems in Human Relations Test* was keyed by several experts operating under different assumptions. The result was twenty-eight keys. Some were developed in accord with the twelve categories of Rosenzweig picture frustration responses (*4*). Others were based on value categories, a hostility continuum and other personality categorizations. Use of the keys contributed to the understanding of sex differences. Women were less willing to blame others, more willing to accept blame, and less willing to affiliate with the punishing person or group. Women tended to place group values high and to hold themselves responsible for the group. They were, furthermore, inclined to expect solutions from someone else and to resort to expert authority.

Beyond this sex difference there were significant relationships between attitude and some of the scores obtained through using the new keys. The significant items of correlation are reported in Table IV.

It appears that aggressive and tough-minded behaviors fit with a constellation of hard-boiled autocracy, laissez-faire and blame. Refusal to decide or attempts to escape issues were not characteristic of democracy but did preclude selection as undemocratic. It follows that subjects inclined to recommend referral, open or disguised, were not classified as undemocratic.

Male students with high linguistic scores on the Kuder Preference Record accepted experts and were benevolent at statistically significant levels. They also tended toward the inactivities of laissez-

TABLE IV—CORRELATIONS OF SIGNIFICANT "FACTORS" DERIVED FROM DATA COMPUTED USING 28 DIFFERENT KEYS

	H	L	E	e	I	D′
H	1.00	.54	.76*	−.35	−.04	−.80*
L		1.00	.52	−.70*	−.19	−.70*
E			1.00	−.42	−.13	−.71*
e				1.00	.10	.44
I					1.00	.08
D′						1.00

KEY: H—Hard-boiled Autocrat; L—Laissez-faire; E—Blame, hostility against a person or thing; e—Solution expected of someone else; I—Blame directed upon self—Self-punishing; D′—Disguised referral (approval seeking).

* Significance greater than the .01 level.

faire reaction. Women with high scientific interest scores rejected laissez-faire solutions. No other categories of interest score maintained consistent relationships with attitude scores.

A test of critical thinking (also developed in the ACE Coöperative Study of Evaluation in General Education) was significantly and positively related to democratic scores for both male and female subjects. Women in the top quartile on the democratic scale also did well on a test of critical thinking in the social sciences (developed in the ACE Study). Only the significant pieces of data are reported in Table V.

Several other data might be considered as a group. These are the biographical facts that describe the community from which the student came, and his father's occupation, income, and education. "Democratic" scores were significantly high for students brought up in villages. The mean score for them was 21.36. Town (2500 to

TABLE V—SIGNIFICANT ITEMS OF RELATIONSHIP BETWEEN ATTITUDE AND CRITICAL THINKING

	Male		Female			
	High D	Low D	High D	Low D	High B.A.	Low B.A.
Critical thinking	34.50	24.15	34.16	27.55	—	—
Critical thinking in Social Science	—	—	30.88	24.11	22.70	33.00

25,000), city (25,000 to 100,000) and big city (over 100,000) scores were much alike with means of 17.36, 16.73, and 17.14. Farmers' children had the lowest "democratic" scores with a mean of 15.82. The size of home community was related to "autocratic" rather than to "laissez-faire" or "resort to expert" scores on the attitude test. Farm, town, city and big-city students were all significantly more benevolent than those from villages. Of these, the farm students gave most autocratic responses. These data should not be interpreted as descriptive of the various populations because there is no assurance that equal portions of each group go to the college involved. The generalizations here are only for the school population and are not applicable in general.

The father's education was significantly related to men's attitudes. Men with democratic scores in the top quartile had fathers with an average education of 9.04 years, whereas those with limited democratic attitudes had fathers with 10.91 years average education. The reverse of this on the "benevolent autocrat" score with means of 10.91 and 7.90 demonstrates that men students were more benevolent as their fathers had more formal education.

Father's occupation and income were examined as possible predictors of democratic attitude. Women with high democratic scores had fathers who were statistically higher on census occupational classification than the fathers of other women. On the Resort to Expert scale high scores for women were significantly related to lower occupational level and high income. It appears then that, as is the case with men, daughters of successful parents may depend on experts, but that they are more democratic when the success of their parents is measured by occupational scales rather than financial scales.

There is some evidence that other variables are related to faculty choice of democratic subjects. An independent rater found that men, attractive in physical appearance, tended to assignment as democratic, whereas good-looking women tended to be labeled undemocratic. There are no evidences to explain whether these data reflect bias or whether unprepossessing men respond aggressively and attractive women learn early that they can afford themselves the luxury of undemocratic behavior.

There is limited indication that subjects selected as democratic tend to choose the middle course and perhaps behave like the average. The concentration in the sample of democratic students

were affiliates of the central Protestant churches. The sample was too limited to be conclusive in interpreting possibilities of choice from smaller religious groups. The personnel records were reviewed and summarized by another rater. It appeared that vigor and aggression are assumed to be non-democratic though males rated as independent were associated with respect for others as shown by high "democratic" scores. These data appear to concur with those from the twenty-eight keys previously reported. Democratic subjects are perhaps a mid-group in behavior: they affiliate with majorities in church affiliation; they are not burdensomely dependent nor are they outspokenly independent of their advisors. It would be unwarranted to interpret these findings as descriptive of subjects. They must, however, be considerations in any description of characteristics judged to be democratic.

This verbal middle-of-the-road behavior has often been considered characteristic of democracy in any situation. Research on the effects of democratic practice in the home has resulted in statements such as the following:

"Democracy is characterized by a high level of verbal contact between parent and child, appearing as consultation about policy decisions, as explanation of reasons for the family rules, and as verbal explanation in response to the child's curiosity. Accompanying this flow of verbal communication is a lack of arbitrariness about decisions and a general permissiveness plus restraint on emotionality. . . .

Socialization by definition demands the development of contradictory aspects of the personality. Conformity to cultural demands is not easily obtained without robbing the child of that personal integrity which gives him a mind of his own and which supports him in his attempts to satisfy his curiosity and to carry out his ideas and phantasies in his dealing with the real world. . . ." (*5*)

CONCLUSION

A vital question in education, at any level, is, "Who shall be selected." Sometimes disguised but always present is the function of rewarding, encouraging, promoting, and advancing some persons over others. The criteria of choice might be expected to reflect the values of a society or some perversion of these values. In some situations, the criteria may be dictated by values that are characteristic of some approved, powerful or subversive group in the

society. On these criteria, some will be advised to remain in school and others will not; some will be guided into professions and others will not; some will be given degrees and others will not; some will be recommended to employers and others will not.

The significance of this selection can scarcely be over-estimated. The cultural, economic and human directions are altered by the wisdom employed in deciding what qualities shall be approved and by the accuracy employed in detecting which of the people best exemplify such qualities. The studies reported here provide some insight into the selections as they operate in an American college.

The student selected as democratic by test score is also selected by faculty committee. The agreement is well beyond the .01 level of significance. The selectee is likely to be able, verbal, older than average, the son of a villager, a successful student who performs well on a test of critical thinking. His home is likely to be non-affluent with his father's income and education slightly below average. His affiliations and behaviors tend to be the popular and widely approved ones. He is probably less democratic than his sister.

It is possible that faculty select students on the basis of appearance, sex, academic performance or verbal ability but the fundamental fact remains that having been selected (whatever the basis) the members of this group do perform in a significantly different way on an objective test that has been designed to elicit democratic behavior.

The evidence supports previous findings in demonstrating the pervasive and inclusive facets of relationship between democracy and ability, democracy and skill, democracy and maturity, democracy and family characteristics, democracy and biographic facts and democracy and test responses.

The in-person consistency found in these data is important in social theory. The most democratic subjects were able, skilled in critical thinking, socially acceptable, academically successful and could probably be identified by a lengthy list of approved characteristics. These evidences may indicate a composite superiority of which democracy is a part. Some democratic subjects are characterized by high rating in all of these. Persons who had none of these excellences were not selected as democratic.

These data are productive of one other basic and exploratory consideration, "What kind of democratic person do we desire?"

Perhaps the subjects selected are normative rather than democratic. Perhaps they are selected because the test-makers and the committees share the popular supposition that goodness lies in the middle.

It may be that democratic college students are verbal, are restrained and do restrict their individuality; it may be that the test items are incapable of eliciting responses characteristic of a firmer and more vigorous democrat, or perhaps these selectees with their majority of women, with their techniques of referral, with their high level of verbal and academic competence, and with their permissive mildness, are the same persons who can be counted on if grim necessity requires them to take a firm stand for democracy.

REFERENCES

1) T. W. Adorno, *et al.*, *The Authoritarian Personality*. New York, Harper and Brothers, 1950, p. 971.

2) Bruno Bettelheim and Morris Janowitz, *Dynamics of Prejudice*. New York, Harper and Brothers, 1950, p. 178.

3) *Problems in Human Relations Test*. American Council on Education, 1951.

4) S. Rosenzweig, *Rosenzweig Picture Frustration Study*. Pittsburgh, Western State Psychiatric Hospital, 1944.

5) Alfred L. Baldwin, "The Effects of Democratic Practice in the Home." *Psychological Studies of Human Development* (edited by Kuhlen and Thompson). New York, Appleton-Century-Crofts, Inc., 1952, pp. 138–139.

THE CHARACTERISTICS OF POOR AND GOOD READERS AS DISCLOSED BY THE WECHSLER INTELLIGENCE SCALE FOR CHILDREN

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INTRODUCTION

Of continued interest to educators is the problem of the poor reader. Every teacher has a number of pupils who do not achieve in this subject to the extent that their measured general mental ability would indicate. Essentially the problem raised in this study is as follows: Do most of these youngsters actually lack certain abilities or capacities basic to the reading process.

In the present paper, the hypothesis is advanced that the poor reader may be relatively weak in those parts of intelligence tests which resemble vital characteristics inherent in written language. If a pattern of abilities for poor readers can be found, the resulting profile should have implications for curriculum modification.

It was decided that the Wechsler Intelligence Scale for Children (WISC) (*6*) would be a profitable instrument for exploration of this area since it is administered individually and because the writers, in using this instrument, noted that poor readers had more difficulty with certain subtests.

Various research studies have attempted to show a pattern of mental abilities which characterizes poor reading skill. In an extensive study of 30 poor readers by Robinson, it was found that the Knox Cube Test[1] yielded the lowest mental age equivalent of the subtests on the Arthur Point Scale (*5*, p. 154). Graham (*2*) reports that for 31 poor readers who were tested on the WISC, statistically significant differences were found for these subtests:

[1] The Knox Cube Test is a non-verbal test of immediate memory span in which the task is to repeat a series of taps on four cubes.

Arithmetic, Vocabulary, and Coding were significantly low; Similarities was significantly high.

PROCEDURE

The subjects of this investigation included 11 good readers (one or more years above grade level on the reading section of the Wide-Range Achievement Test) and 31 poor readers (one or more years below grade level on the reading section of the Wide-Range Achievement Test), all of whom were given the WISC.

They ranged in grade levels from third through eighth grades. The 11 good readers were made up of 6 girls and 5 boys; the group of 31 poor readers contained 5 girls and 26 boys. All of the children had IQ scores above 90, therefore they reasonably could be expected to read at least at grade level. The average Full Scale IQ score of the good group was 117, and the average Full Scale IQ score of the poor group was 101.

RESULTS

In Tables I and II are presented the rankings of the WISC subtests according to the number of months deviation from the average WISC mental age equivalent score in the direction of

TABLE I—RANKINGS OF WISC SUBTESTS FOR 31 CHILDREN IN POOR READING GROUP BY MONTHS DEVIATION FROM AVERAGE TOTAL SCORE

* 1. P. Arrangement	+17 m.
* 2. Block Designs	+11
3. P. Completion	+9
* 4. Comprehension	+8
5. Object Assembly	+4
6. Vocabulary	0
7. Similarities	0
* 8. Information	−8
† 9. Arithmetic	−8
*10. Coding	−12
11. Digit Span	−13

TABLE II—RANKINGS OF WISC SUBTESTS FOR 11 CHILDREN IN GOOD READING GROUP BY MONTHS DEVIATION FROM AVERAGE TOTAL SCORE

† 1. Similarities	+20 m.
2. P. Completion	+12
2. Information	+12
4. Object Assembly	+5
5. Vocabulary	+5
6. Block Designs	+3
7. Digit Span	+3
8. Arithmetic	−2
9. Comprehension	−2
10. Coding	−3
11. P. Arrangement	−4

* These deviations were significant at the 1% level of confidence.

† These deviations were significant at the 5% level of confidence.

Levels of confidence were derived by a t-test for correlated data. (*3*, p. 137)

advanced to retarded. This method of presentation was chosen for two reasons: (1) The extent of the deviation from the average total test score can be easily seen; and (2) the difference in average mental ability between the group of good readers and the group of poor readers is held constant so that comparison can be made in like terms on the basis of deviations from their respective average mental ages.

DISCUSSION OF RESULTS

The present writers believe that their results and those found by the researchers mentioned above indicate a pattern common to poor readers which can be understood in terms of Goldstein and Scheerer's concepts of concrete and abstract (*1*).

According to Goldstein and Scheerer, the concrete attitude is the surrender to experiences of an unreflective character.

> We are confined to the immediate apprehension of the given thing or situation in its particular uniqueness. . . . Thinking and acting are directed by the immediate claims which one particular aspect of the object or of the outer world situation makes (*1*, p. 2-3).

In other words, a person is dealing with his world in a concrete manner when he reacts to stimuli in his environment directly without reflection, conceptualizing, or symbolizing. For example, when driving, most of us learn to react to a red traffic signal by stopping. We might react to the color red when it is presented in other situations by always coming to a halt. We would do this if we were unable to be anything but aware of "redness" as being a peculiar property associated with danger.

In the abstract attitude, according to the same authors,

> We transcend the immediately given situation, the specific aspect or sense impression; we abstract common from particular properties; we are oriented in our actions by a rather conceptual viewpoint, be it a category, a class, or a general meaning under which the particular object before us falls. (*1*, p. 3-4)

In other words, a person reacts in an abstract manner when he mentally leaves the immediate stimuli and, with the use of symbols as a tool, forms concepts and generalizations about the experience. For example, while driving we see an alternate route to the same destination and have to decide which is the best way by means of considering various factors (distance, traffic, road con-

struction, etc.); in so doing, we read symbols, call upon past experiences and knowledge, form conclusions—thus react in an abstract manner.

Applying these concepts of concrete and abstract to the results of the present study, it is essential to discuss the nature of the subtests which ranked significantly above and below the mean total test score.

In three subtests—Comprehension, Block Designs, and Picture Arrangement—which in the present study were found to be significantly high for the 31 poor readers, the question arises as to whether there are any essential factors in common. It is proposed by the present writers, that the essential factors in common to these three subtests include (1) relative lack of need for long or short term, symbolic memories; and, conversely, (2) the immediate availability of a structured stimulus.

While it has been considered by Mayman *et al.* (*4*) that the Comprehension subtest measures judgment and the Picture Arrangement subtest measures anticipation and visual organization, yet both of these employ unique situational stimuli which are immediately available to the subject at all times. They require associational cues from past experience but of a very commonplace nature. For example, in the Comprehension subtest, the item, "What is the thing to do when you cut your finger?", binds the subject to a common experience which involves relatively non-symbolic associations. In a like manner, while the Block Designs subtest is considered to involve a visual analysis and synthesis of visual patterns, yet it can be seen again that the stimulus (i.e., the design cards) though not commonplace, is always at hand and therefore relatively few demands are made upon memory functions. It seems to the present writers that these points essentially place these three subtests within categories calling for less abstract behavior (as defined by Goldstein and Scheerer) than is needed for the other tests in the scale.

On the other hand, in Coding, Information, and Arithmetic, the three subtests which measured significantly low for the poor readers, it can be seen that (1) memory functions are most necessary; and (2) a given stimulus does not remain immediately available. It is fairly obvious that the Information subtest demands recall of specifically learned material; the subject either knows the answer or does not. The low score on this test might possibly be

influenced by the fact that, being a poor reader, the subject has had less opportunity to acquire knowledge. The Arithmetic subtest, besides requiring the immediate memory of the presented problem, involves a long-term memory of the processes of arithmetical computations and then the actual carrying out of these processes mentally to arrive at a correct solution. The Coding subtest—the most outstandingly difficult subtest for poor readers—which, on the surface, may seem not to require memory, actually depends upon the memory function for efficient performance in this task. The subject, to do well, must become familiar with the nine symbols and associate a digit with its more or less meaningless symbol. It has been noted that those subjects who ordinarily do well on Coding, very quickly make these associations.

A brief mention should be made of the eleven children in the good reading group who were also given the WISC. Inasmuch as this group consisted of so few subjects, caution should be used in drawing conclusions. It should not be inferred, for example, that there is a clear-cut picture emerging from the test results. It is interesting to note, however, that the Picture Arrangement subtest (which ranked the highest for the poor readers) ranked the lowest for this good group. There is a hint here that the good readers, in that they perhaps are more able to use abstract symbolization, may not commonly depend upon the concrete approach in learning and so are less adept in tasks where they cannot employ their peculiar abilities. The only significantly deviant subtest was Similarities which is considered to be a measure of verbal concept formation. It would be expected that good readers should do better on this type of problem. What is surprising is that the poor readers, both in this study and in Graham's, did relatively well also.

All in all, it is felt that the good readers have many strong abilities, all of them probably contributing to the learning process when applied to reading. It should be remembered that they, as a group, have in actuality no really weak areas, since their lowest subtest was only four months below the mean mental age equivalent score for the total test.

SUMMARY

In the present study, 31 poor readers and 11 good readers were given the WISC in an effort to determine whether a pattern of abilities existed which might explain the reading achievement of

each of these two groups. The achievement level was determined through the use of the reading section of the Wide-Range Achievement Test. Briefly, the findings were as follows:

1) The poor readers were significantly low on the Information, Arithmetic, and Coding subtests.

2) The poor readers were significantly high on the Picture Arrangement, Block Designs, and Comprehension subtests.

3) The good readers were significantly high on the Similarities subtest.

A hypothesis was made that the poor readers, as a group, approach learning situations in a more concrete manner as a result of an inability to handle abstractions. Since the reading process inherently consists of abstractions strongly depending on memory functions, these children are handicapped. The good readers, on the other hand, do not show this lack of ability to use abstractions and have much more retentive ability.

REFERENCES

1) Kurt Goldstein and Martin Scheerer, "Abstract and Concrete Behavior—An Experimental Study with Special Tests," *Psychological Monographs*. Vol. 53, No. 2, (1941), 151.

2) E. Ellis Graham, "Wechsler-Bellevue and Wechsler Intelligence Scale for Children Scattergrams of Unsuccessful Readers," *Journal of Consulting Psychology*. Vol. 16, (1952), 268–71.

3) J. P. Guilford, *Fundamental Statistics in Psychology and Education*. New York, McGraw-Hill Book Co., Inc., 1942.

4) Martin Mayman, Roy Schafer and David Rapaport, "Interpretation of the Wechsler Intelligence Scale in Personality Appraisal," *An Introduction to Projective Techniques*. Edited by Harold and Gladys Anderson. New York, Prentice-Hall, Inc., 1951, pp. 541–79.

5) Helen M. Robinson, *Why Pupils Fail in Reading*. Chicago, University of Chicago Press, 1946.

6) David Wechsler, *Wechsler Intelligence Scale for Children*. New York, The Psychological Corporation, 1949.

PUNITIVENESS AND "CAUSALITY" IN GRADE SCHOOL CHILDREN[1]

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The preventive approach to mental health problems has been the subject of increased attention in recent years (*8*). The Preventive Psychiatry Project at the University of Iowa is one of several units currently functioning in the preventive area. The purposes and focal concepts of the project have been stated elsewhere (*1*). The present paper is a report of the investigation of one of the project's primary working hypotheses. This hypothesis may be stated thus: *In children of elementary school age, an awareness of the dynamic, complex, variable nature of human motivation is negatively related to rigid, moralistic punitiveness.* In children, this awareness does not imply a knowledge of specific motivations of human behavior, as it would in adults. It is likely that knowledge and awareness are associated even in children, although our earlier investigations have shown that there is hardly enough of the former to measure. We are assuming that it is possible for an individual who is not fully developed cognitively to realize the multiformity of causation and yet not be capable of enumerating the causal factors themselves. This realization together with its concomitants and behavioral consequences has been called "causality" (*1*). The operational definition of causality varies with cognitive development, that is, from age level to age level, although the central theme remains constant. The specific definition for the present study is based on the general formulation as it appears in the hypothesis above. It will be described in the next section.

THE TESTS

An adequate measure of punitiveness in the child, the Problem Situations Test (PST), had been developed earlier by the project. The PST is a 22-item multiple-choice test in which the child as-

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sumes the hypothetical rôle of an authority figure and deals with misbehaviors or deficiencies of children. The subject is required to select one of six alternative methods of which three are punitive and three non-punitive.[2] A punitive method is one which involves physical or verbal punishment, coercion, or deprivation. The score for punitiveness is the number of punitive responses chosen. Preliminary data on the PST and its relationship to authoritarianism and parental disciplinary action will be found in another publication (*3*).

A measure of causality, the Causal Test (CT) was devised to test the hypothesis under investigation. The CT is a 30-item true-false test based on eight situations involving children. For example:

1. There is a gang of six boys in the junior high school in Sunnyside. These boys usually go around together. They are often in trouble. Once it was for tearing down a yard fence. Another time they broke all the basement windows in one of the store buildings. Recently they entered a vacant house and broke the light bulbs and tore down the window shades. What things do you think are important in explaining the behavior of these boys?

True False a. Since these boys do the same things, they are probably all alike in most ways.

True False b. A person wouldn't have to find out much about these boys to know why they do such things.

True False c. I am sure there can be no excuse for the behavior of these boys.

True False d. These boys are breaking things because they are just mean.

The test is scored inversely, i.e., for non-causality, so that the score is the number of non-causal responses to the thirty items. In twenty-four of the items, the causal response is "false". The remaining six items are distributed randomly throughout the test to prevent the establishment of a "set" for using the "false" response.

The tests were administered to 60 fourth-grade pupils, 67 fifth-grade pupils and 151 sixth graders in a town in eastern Iowa of about 80,000 population. Of the 278 subjects, 144 were boys and 134 were girls.

RESULTS

The respective mean test scores and sigmas by grade are shown in Table 1.

[2] These alternatives were obtained from actual responses to an earlier open-end form of the test. For further details, see (*3*).

TABLE 1—MEANS AND SD'S FOR THE TESTS

	4th Grade		5th Grade		6th Grade	
	Mean	SD	Mean	SD	Mean	SD
PST	6.91	4.48	4.38	2.72	5.39	3.76
CT	14.69	3.97	10.85	4.59	10.72	4.33

An analysis of the variance shows that there are significant grade differences on both tests. The F-ratios are 6.87 for the PST and 21.51 for the CT, both significant at well below the .01 level. On the PST, all of the individual t-test comparisons are significant. The 4th grade differs significantly from the 5th and 6th on the CT, but the latter two do not differ. Despite the differences, no clear-cut grade level trend appears. Some sort of trend seems to characterize the CT means, but no generalization concerning trend is warranted by the PST data.

In view of the significant differences between grade levels, the correlations between the two tests were computed separately for each grade. IQ scores on the Otis Self-Administering Test, Intermediate form, were secured from school records. Mean IQ's were 109 for the 4th grade, 108 for the 5th, and 105 for the 6th. Correlations between the two experimental measures and the Otis scores were also computed. All the correlations, including the relationship between PST and CT with IQ held constant, will be found in Table 2.

The correlations were averaged over the grades by means of Fisher's *z*. This procedure is justifiable, despite the independence of the groups, on the grounds that the populations are equally correlated. The correlations do not differ significantly from grade to

TABLE 2—INTERCORRELATIONS AMONG PST, CT AND IQ

Grade	PST-CT	PST-IQ	CT-IQ	PST-CT. (IQ)
4th	.41†	−.28*	−.24	.37†
5th	.52†	−.38†	−.13	.51†
6th	.45†	−.17*	−.44†	.42†
Average	.46†	−.24†	−.33†	.43†

* Significant at the .05 level.
† Significant at the .01 level.

grade except for the CT-IQ relationships for the 5th and 6th grades. Since the assumption of equally correlated populations does not hold true for CT-IQ, we shall have to regard the average CT-IQ coefficient as an expedient approximation.

DISCUSSION

Causality and punitiveness, as they have been defined in this investigation, have been shown to be significantly related in the subjects studied. The relationship is moderately high, roughly the same as has been found to exist between punitiveness and authoritarianism in children of this age group (*3*). The correlations between the two variables and intelligence are negative and significant, although relatively low. Conclusions concerning the relationship between causality and intelligence must be tentative since the average correlation is a poor estimate. Also there is no apparent explanation of the significant difference between the correlations for the 5th and 6th grades. However, we can be reasonably sure that whatever the circumstances may be, the CT-IQ relationship is not of such magnitude as to account for any large part of the correlation between causality and punitiveness. This is, of course, also true for the PST-IQ correlation.

The relationship between causality and punitiveness in children has potential importance for preventive psychiatry. We may safely assume that a child who tends to be judgmentally punitive, whether this tendency is overt or suppressed, is inclining in an unwholesome direction from the point of view of mental hygiene. Various studies in the area provide evidence that this type of aggressiveness may be an etiological factor in race prejudice, delinquency, and character disorders. While our data suggest a general relationship between punitiveness and causality they do not indicate which of the variables is the prime mover and which is the effect. The purposes of prevention do not require that the matter actually be clarified. The pertinent question asks whether punitiveness in the child can be reduced by means of school curricula and other planned learning programs designed to bring about an increase in causality. Certain investigations suggest that this is the case. Stiles (*7*) has shown that even a brief learning program resulted in a decrease in punitiveness in 10-year olds as measured by their treatment of peer problems in the "room council." Links (*2*) found that an "analytic" (causal) radio program was more ef-

fective than a non-analytic one in reducing anti-Negro prejudice in 10th grade pupils. Indirect evidence is furnished by supplementary studies (*4*, *6*).

A general outline of the learning program for teaching causality as developed thus far has been presented by Ojemann (*5*). Manuals and teaching aids developed within this framework are available to educators and other interested persons on request.

REFERENCES

1) E. E. Levitt and R. H. Ojemann, "The aims of preventive psychiatry and 'causality' as a personality pattern." *J. Psychol.*, 1953, 36: 393–400.

2) Eleanor Links, *A comparison of two methods of using radio in the changing of certain social attitudes*. Unpublished Master's thesis, State Univ. of Iowa, 1945.

3) W. H. Lyle and E. E. Levitt, "Punitiveness, authoritarianism and parental discipline of grade school children." *J. abnorm. soc. Psychol.*, 1955, 51: 42–46.

4) Mildred I. Morgan and R. H. Ojemann, "The effect of a learning program designed to assist youth in an understanding of behavior and its development." *Child Develpmt.*, 1942, 13: 181–194.

5) R. H. Ojemann, "An integrated plan for education in human relations and mental health." *J. schl. Hlth.*, 1950, 20: 99–106.

6) R. H. Ojemann and Frances R. Wilkinson, "The effect on pupil growth of an increase in teacher's understanding of pupil behavior." *J. exp. Educ.*, 1939, 9: 143–147.

7) Frances S. Stiles, "Developing an understanding of human behavior at the elementary school level." *J. educ. Res.*, 1950, 43: 516–524.

8) *Promotion of mental health in the primary and secondary schools: an evaluation of four projects*. Report No. 18, Committee on Preventive Psychiatry of the Group for the Advancement of Psychiatry, January, 1951.

A FORCED CHOICE RATING FORM FOR COLLEGE TEACHERS

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Over 225 colleges and universities are now using student ratings of instructors and, at last count, another 284 were either considering it or had definite plans made (*4*). Faculty resistance to such ratings is well known. The primary objections are: (a) proneness of the ratings to leniency and halo; (b) carelessness and superficiality of student ratings; (c) use of generalized traits for rating; and (d) disruption of normal student-teacher relations.

Faculty members often think that these difficulties are peculiar to classroom ratings. They may not realize that these effects appear in many rating situations, and can be minimized by the use of better scales.

The purpose of this study was to produce a scale which would answer some or all of these objections. The forced choice method was selected because it minimizes halo and leniency, yields ratings in terms of specific behavior, requires care and discrimination by the rater, and does not require the use of unfavorable statements.

THE PRELIMINARY SCALE

A list of 244 statements describing specific teacher behavior was compiled from essays about "My Best College Teacher," and "My Worst College Teacher" written by 50 college students. All statements were re-written to appear favorable. For example, "He puts the class to sleep" was changed to "He keeps the class awake."

Eighty-eight students rated each statement on a five-point scale indicating degree of applicability to a teacher whom they had known in the past. Half were asked to rate the best teacher whom they had ever known, half the worst teacher. From the ratings a discrimination index for each statement was computed according to the method of Sisson (*7*).

Nine students not included in the first group rated the statements on a five-point scale of favorability of appearance. Their ratings agreed closely, and the mean rating was used as the favorability index. This method, suggested by Berkshire and Highland

(*1*), was employed in place of the more usual preference index. Only items with a mean rating of moderately- to highly-favorable were retained.

Thirty-one forced choice blocks were constructed by placing in each block four items with the same favorability index, two of which had high discrimination indices and two of which discriminated poorly. Subjects were instructed to select two items from each block that best described the teacher to be rated.

At University A the scale was administered to 55 students who rated the best teacher that they had ever had in college, and 54 who rated the worst. The sample was taken from 10 classes in engineering, liberal arts, business and education. Ratings were anonymous but information collected on the form showed that over half the subjects had attended two or more colleges. No freshmen were used.

REFINING THE PRELIMINARY SCALE

After item analysis the six poorest blocks were dropped. The remaining 25 blocks, containing 100 items, covered the following areas: method of teaching, examination and grading procedures, knowledge of the subject, method of handling students' questions, student-teacher relations, textbooks and assignments, speech habits and personal traits. The items were scored as follows: +2 for items discriminating good teachers; +1 for non-discriminating items; 0 for items discriminating poor teachers. Possible scores ranged from 20 to 84. Administration required about 15 minutes.

TRYOUT AND CROSS VALIDATION

The revised scale, called the *Instructor's Information Form*,[1] was administered at two additional schools. At University B, a private urban school with 10,000 students, it was given to 98 students from seven classes. At University C, a rural state school with 5000 students, it was given to 110 students from four classes. Of the total sample of 208, 28% were sophomores, 29% juniors, 31% seniors and 12% graduate students. Half the sample rated their best teacher, half their worst, using teachers from any college they had attended in the last four years. Because the data were

[1] The *Instructor's Information Form* may be obtained from Dr. Rollin M. Patton, 535 Blakeley Drive, Antonio 9, Texas.

TABLE I—SUMMARY OF RESULTS

	N	Best Teachers		Worst Teachers		*t*
		Mean	S.D.	Mean	S.D.	
University B	98	66.76	4.28	43.76	7.04	19.00*
University C	110	65.02	4.77	46.26	6.48	17.53*
Combined Groups	208	65.92	4.62	44.22	6.99	26.20*

* Significant at .01 level of confidence.

obtained in summer sessions an unusually cosmopolitan student sample resulted. Over 57% had attended other colleges; they reported attendance at 73 different schools well scattered across the country.

Table I shows the means of the ratings. All differences between means of best and worst teachers are significant at the .01 level of confidence (t-test). Differences between the means of best teachers at the two universities are not significant, nor are differences between worst teachers. The frequency distributions for the best and worst groups are shown in Table II, with the data for Universities B and C combined.

The split-half reliability of the scale, calculated on odd-even items, was found to be 0.88.

RESISTANCE TO LENIENCY AND HALO

Success in biasing ratings requires the ability to identify the high and low scoring items. Such identification was very easy on three teacher rating scales examined by the authors (*2*, *5*, *6*). On two of these, graphic scales, the highest rating was always on the right; on the other, a check list, the good items were always stated in favorable terms, the poor ones in unfavorable terms. Spontaneous comments by our subjects have indicated that good and poor items on the *Instructor's Information Form* are not readily discriminated.

For an estimate of the scale's resistance to faking, 39 students from the authors' classes in psychology were asked to fill it out with the highest possible rating. If the scale could be falsified perfectly, the mean of the faking group should be 84 (the highest possible score). Actually the mean of the faking group was 63.90 and the standard deviation 5.32. The highest faked rating was 72.

TABLE II—FREQUENCY DISTRIBUTIONS OF THE SCORES OBTAINED WHEN 104 STUDENTS RATED THEIR BEST TEACHER AND 104 STUDENTS RATED THEIR WORST TEACHER (DATA FOR UNIVERSITIES B AND C COMBINED)

Score	Worst Teachers	Best Teachers
31–32	2	
33–34	5	
35–36	5	
37–38	8	
39–40	6	
41–42	6	
43–44	13	
45–46	13	
47–48	8	
49–50	9	
51–52	13	
53–54	9	
55–56	4	1
57–58	3	4
59–60		10
61–62		9
63–64		13
65–66		21
67–68		19
69–70		11
71–72		7
73–74		6
75–76		1
77–78		1
79–80		1

The faked mean is 2.02 below the mean for best teachers, a small difference which was, however, significant at the .05 level of confidence (t-test).

CONCLUSIONS

A scale of the forced choice type shows ability to discriminate good and poor teachers with very little overlapping. It is believed that such a scale, consisting of favorable items describing specific teacher behavior, can answer faculty complaints that student ratings are too general, too carelessly made, or too embarrassing. The forced choice scale shows greater resistance to faking than other types.

REFERENCES

1) J. R. Berkshire and R. W. Highland, "Forced Choice Rating." *Personnel Psychology*, 1953, 6: 355–378.

2) C. W. Crannell, "Experiment in Rating of Instructors by Students." *College and University*, 1948, 24: 5–11.

3) P. R. Meyer and R. M. Patton, "Can Student Rating of Instructors be Painless and Foolproof?" *School and Society*, 1954, 80: 200–201.

4) F. J. Mueller, "Trends in Student Ratings of Faculty." *Bulletin of the American Association of University Professors*, 1951, 37: 319–324.

5) H. H. Remmers and P. C. Baker, *The Purdue Rating Scale for Instruction*. Lafayette, Indiana; Division of Educational Reference, Purdue University, 1950.

6) H. Ruja, "Instructor-Rating Scale." *Educational Administration and Supervision*, 1953, 39: 209–217.

7) E. D. Sisson, "New Army Rating." *Personnel Psychology*, 1948, 1: 365–381.

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